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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/686,959	10/12/2000	Toshiki Usui	Q61232	5709

7590 01/03/2003

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EXAMINER

TRAN, LY T

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 01/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/686,959

Applicant(s)

USUI, TOSHIKI

Examiner

Ly T TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-13, 25, 30-37, 49, 50, 53, 55-58, 60-62, 74, 77 and 79-86 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 6, 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 2,3,5,14-24,26-29,38-48,51,52,54,63-73,75,76,78 and 87-97.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species 1, figure 5-11 in Paper No. 7 is acknowledged.

For further review, claims 2-3, 5, 14, 15-19, 26-29, 38-43, 45, 51-52, 54, 63-68, 75-76, 78, 87-92 do not read on species 1 because figure 5-11 do not disclose ink consumption amount controlling means is the ink consumption amount by preparatory ejection (flushing) and the ink consumption amount by a sucking operation, instead, figure 12-18 disclose preparatory ejection controlling means, therefore, these claims are also withdrawn from consideration.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

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published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4, 6, 12-13, 25, 30, 35-37, 49-50, 53, 55, 60-62, 74, 77, 79 and 84-86, rejected under 35 U.S.C. 102(e) as being anticipated by Kanaya et al. (EP 956 964).

With respect to claims 1, 25, 30, 49, 50, and 74, Kanaya et al discloses an ink jet apparatus and a method comprising:

- Ink reservation amount obtaining means for obtaining the ink reservation amount in the in reservoir (Column 22: line 25-28)
- Temperature change amount obtaining means for obtaining the temperature change amount of the recording head (Column 25: line 13-15m Column 14: line 47-49)
- Ink consumption amount controlling means for controlling the ink consumption amount of the recording head based on the temperature change amount of the recording head obtained by both the temperature change amount obtaining means and the ink reservation amount obtaining by the ink reservation amount obtaining means (Column 27: line 16-20, Column 28: line 35-57)

With respect to claims 4, 77 and 53, Kanaya discloses the ink reservation amount obtaining section detects the ink consumption amount and obtains the ink reservation amount in the ink reservoir (Column 25: line 17-20, Column 28: line 9-12)

With respect to claims 6, 55 and 79, Kanaya discloses temperature change amount obtaining means comprises temperature detecting means for detecting the temperature of the recording head and temperature information storing means for storing the head temperature temperature information from the temperature detecting means (Column 27: line 5-10).

With respect to claims 11-13, 35-37, 60-62 and 84-86, Kanaya discloses generating a driving signal that makes the recording head perform a recording operation, ink consumption amount controlling means adjust the driving signal for the recording operation, driving pulse for ejecting ink droplets, ink consumption amount controlling means adjusts the driving voltage and pulse form of the driving pulse based on the temperature change amount and the ink reservation amount (Column 28: line 35-57, Column 30: line 9-14, Fig16 C, 16B).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7-11, 31-34, 56-59 and 80-83 rejected under 35 U.S.C. 103(a) as being unpatentable over Kanaya (EP 956 964) in view of Takayanagi (JP 05-050590) and Murray et al. (USPN 6,290,321).

Kanaya discloses the claimed invention except for store the recording head temperature information from the time when the power source is turned on, in the waiting state of the recording operation, holds the stored head temperature information even after the power source if turned off and using the head temperature information held in the temperature information storing means when the power source of turned on again within a specified time after the power source if turned off.

Takayanagi teaches to store the temperature information in a non-volatile memory (Abstract).

Murray teaches using the non-volatile memory to retain the data on the cartridge even the power turn off (Column 6: line 38-43)

The combination of Takayanagi and Murray et al teach store the recording head temperature information from the time when the power source is turned on, in the waiting state of the recording operation, holds the stored head temperature information even after the power source if turned off. While Takayanagi and Murray et al does not specifically teach using the head temperature information held in the temperature information storing means when the power source of turned on again within a specified time after the power source if turned off, it provide the teaching of by retaining the information after the power turned off, the information can by use when the power turn on again so eliminating to redetect the head temperature after the power turn on again.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaches of Kanaya to store the recording head temperature information from the time when the power source is turned on, in the

waiting state of the recording operation, holds the stored head temperature information even after the power source is turned off and using the head temperature information held in the temperature information storing means when the power source is turned on again within a specified time after the power source is turned off as taught by Takayanagi and Murray et al. The motivation to doing so is in order to retain the data after the power is turned off.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kim (USPN 6,222,025) discloses a non-volatile-RAM capable of preventing loss of stored data even when the power is abruptly interrupted (Column 5: line 8-10).
- Miyamoto (JP 40819774) discloses using non-volatile to eliminate the need to redetect the amount of remaining ink when an ink cartridge with the same ID information is reinstalled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 703-308-0752. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for

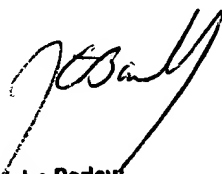
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the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0967.



December 26, 2002


John Barlow
Supervisory Patent Examiner
Technology Center 2800